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|-------------------------------|----------------------------|------------------|
| <b>Notice of Allowability</b> | Application No.            | Applicant(s)     |
|                               | 10/607,629                 | RYOU ET AL.      |
|                               | Examiner<br>Tuan N. Nguyen | Art Unit<br>2828 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 04/13/2007.
2.  The allowed claim(s) is/are 1-3,5-7 and 14-18.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
 of the:
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached  
1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of  
Paper No./Mail Date 5/1/2007.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application
6.  Interview Summary (PTO-413),  
Paper No./Mail Date 5/1/2007.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

**DETAIL ACTION**

***Response to Amendment***

1. In responding to applicant's amendment filed 04/13/2007, claims 1, 14 have been amended. Claim 4 has been canceled.

Authorization to cancel the withdrawn claims 8-13, 19-28, was given in a telephone interview on May 1, 2007 by Mr. Andrew S. Hansen (Attorney for Applicant, Reg. No. 56,370).

***Drawings***

2. New corrected drawings are required in this application because the application has been allowed. The corrected drawings are required in reply to the Office action to avoid abandonment.

**REASON FOR ALLOWANCE**

***Allowable Subject Matter***

3. The following is an examiner's statement of reasons for allowance - Applicant's response filed on 04/13/2007 has been considered, with respect to claims 1, and 6 the references of the record fail to teach or suggest a long wavelength vertical cavity surface emitting laser comprising:

**Claim 1:**

*A first mirror comprising In having at least about 25 mirror pairs; and an active In emits long wavelength from 1200-1800nm situated above said first mirror, and a second mirror comprising In having at least about 25 mirror pairs above a dielectric gain guide, where the dielectric layer comprises a dielectric material consisting of SiO<sub>2</sub>, TiO<sub>2</sub>, SiN above said active area and defining an electrically confining aperture.*

**Claim 6:**

*An active means emits long wavelength from 1200-1800nm situated above first reflecting means, and a second reflecting means comprising plurality of layers comprised of InP, InAlAs, or AlAsSb situated above the confinement means, where the confinement means situated above the active means comprises a dielectric materials consisting of SiO<sub>2</sub>, TiO<sub>2</sub>, SiN.*

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Communication Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harvey Minsun can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan N. Nguyen



MINSUN OH HARVEY  
PRIMARY EXAMINER